



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,984	08/30/2001	Susumu Takahashi	950088B	7633

23850 7590 11/21/2003

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

LEUBECKER, JOHN P

ART UNIT	PAPER NUMBER
----------	--------------

3739

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,984

Applicant(s)

TAKAHASHI ET AL.

Examiner

John P. Leubecker

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,10-13,19,22,23,35-38,40,44,49-53,55,56 and 58-71 is/are pending in the application.
- 4a) Of the above claim(s) 10-13,22,23,35-38,40,44,49-53,55,56 and 64-70 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 71 is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 58-63 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/053,094.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

Election/Restrictions

1. Newly submitted claims 64-70 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: these claims recite at least that the objective optical system receives beams from different visual field directions, as opposed to receiving beams having a parallax.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 64-70 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

2. Claims 2, 4 and 71 are objected to because of the following informalities: as to claim 2, line 4, "from" should be --form--; claim 4, line 3, "systems" should be --system--; claim 71, line 6, first occurrence of "an" should be --n--, claim 71, line 6, "parallel" should be --parallax--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 58, 60, 61 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 58, term “final image surface” lacks antecedent basis. In addition, “the plural images...made on the final image surface” lacks antecedent basis (plural images were previously mention but not ones that were made a final image surface).

As to claim 60, term “image taking means” lacks antecedent basis.

As to claim 61, term “final image surface” lacks antecedent basis. In addition, “the plural images...made on the final image surface” lacks antecedent basis (plural images were previously mention but not ones that were made a final image surface). In addition, phrase “varying the relative distance between the plural images within the final image surface” is indefinite. Assuming that the final image surface is part of the image transmitting optical system, how can the adapter optical system “vary” images in the image transmitting optical system?

As to claim 63, terms “central parts”, “image taking surfaces” and “curved surfaces” all lack antecedent basis.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 2, 4, 58 and 60-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Jap. Pat. 4-16812 for the reasons set forth in numbered paragraph 6 of the previous Office Action, paper number 6.

As for the newly added limitation, the image transmitting optical system is longer than the objective optical system and is thus formed to be of a size larger than the other.

As to new claim 58, the objective optical system forms plural images having a parallax between each other respectively in spatially separated positions (Fig. 1, stereoscopic endoscope) and the device includes at least one image taking means (35a', 35b', Fig. 2) for taking the plural images having parallax and made on the final image surface of the image transmitting optical system.

As to new claims 60, 62 and 63, Figure 7 shows an illuminating light projecting means (95), an objective optical system (85,86), one image transmitting optical *system* (both sets of prisms between the objective optical system (85,86) and CCDs (81,82)), wherein the optical axis of the image taking means is inclined to the optical axis of the image transmitting optical system (the axes of the CCDs, and thus the central parts are inclined 90 degrees from the optical axis of the prisms that extend through the objective optical system).

As to claim 61, and referring to Figures 1 or 2 again, elements (23a,23b,24a,24b, Fig. 1) and (23a,23b,24a',24a', Fig. 2) form an adapter optical system, as best understood.

7. Claims 1, 2, 4, 58 and 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Akui et al. (U.S. Pat. 5,577,991) for the reasons set forth in numbered paragraph 7 of the previous Office Action, paper number 6.

As for the newly added limitation, the image transmitting optical system is longer than the objective optical system and is thus formed to be of a size larger than the other.

As to new claim 58, similar claim limitations as those in claim 1 will not be repeated here. However, the objective optical system forms plural images having a parallax (parallax shown in Fig. 1) in spatially separated positions. Furthermore, the device includes at least one

Art Unit: 3739

image taking means (68a,68b) for imaging the images on the final image surface of the image transmitting optical system.

As to new claim 61, elements (66) and/or (67) form an adapter optical system, as best understood.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akui et al.

Akui et al. disclose the device as described in the rejection under 102(e) except for specifying that the Petzval sum of the objective optical system is negative. Since the desirability to compensate for the Petzval sum between optical systems has been well established in the optics art, it would be obvious to the skilled artisan, as a matter of conventional optical design, to provide for a negative Petzval sum within one optical system to compensate for a positive Petzval sum in another. The mere fact that Applicant chose the objective to be negative instead of the relay lens system would have been considered obvious design choice. In fact, it would appear from the predominately positive lens structure of Akui's relay lens system that it would have a positive Petzval sum. Thus, by conventional optical design, it would be desirable to compensate this by making the objective system negative. It is noted that from the Examiner's

Art Unit: 3739

own knowledge of optical systems that objective lens systems that provide magnification/zoom functions generally tend to have a negative Petzval sum.

Allowable Subject Matter

10. Claims 19 and 71 are allowed.

11. The following is an examiner's statement of reasons for allowance: The prior art of record fail to explicitly teach or suggest a stereoendoscope comprising, *inter alia*, that the objective optical system forms 3 or more images having parallax between each other, one transmitting optical system transmitting the n images, at least one image taking means taking the respective images simultaneously and a displaying means selectively displaying any two images of the taken plural images. Although Takahashi ('706) disclose the forming of 4 images, they are not, and can not be, imaged by the image taking means simultaneously. Furthermore, the displaying means of Takahashi ('706) can not selectively display any two images of the four taken. Although Miyazaki discloses (U.S. Pat. 6,184,923) the forming of 3 or more images (col.8, lines 10-13), Miyazaki fails to explicitly disclose that the displaying means can selectively display any two images of the taken plural images.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

12. Applicant's arguments filed August 22, 2003 have been fully considered but they are not persuasive. Applicant's comments regarding amendments to claim 1 have been addressed in the rejections above. The rejection of claim 19 over Takahashi et al. ('706) has been withdrawn. Rejections directed to Applicant's new claims appear above.

It is noted that claims 10-13, 22, 23, 35-38, 40, 49 and 50 still are indefinite for depending from canceled claims. It is suggested again that these claims be canceled.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

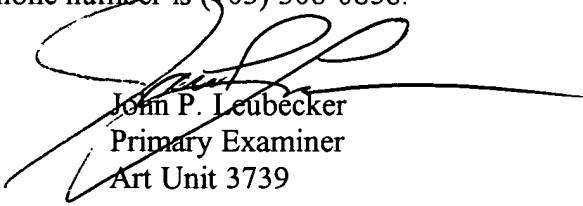
Art Unit: 3739

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (703) 308-0951.

The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.



John P. Leubecker
Primary Examiner
Art Unit 3739

jpl